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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)  
MP0086

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Mail Stop AF, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)]

Application Number  
09/991,043

Filed  
11/21/2001

First Named Inventor  
William Lo

Art Unit  
2142

Examiner  
Douglas B. Blair

On July 26, 2006

Signature

Typed or printed name Michael D. Wiggins

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

Notice of Appeal

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

Pre-Appeal Brief Request For Review and Petition for Extension of Time (5 pgs)

I am the

☐ applicant/inventor

☐ assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed. (Form PTO/SB/96)

☒ attorney or agent of record.  
Registration number 34,754.

☐ attorney or agent acting under 37 CFR 1.34.  
Registration number if acting under 37 CFR 1.34 \_\_\_\_\_

Signature

Michael D. Wiggins  
Typed or printed name

248-641-1600  
Telephone number

July 26, 2006  
Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below\*.

☐ \*Total of \_\_\_\_\_ forms are submitted.



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 09/991,043  
Filing Date: 11/21/2001  
Applicant: William Lo  
Group Art Unit: 2142  
Examiner: Douglas B. Blair  
Title: APPARATUS AND METHOD FOR AUTOMATIC SPEED  
DOWNSHIFT FOR A TWO PAIR CABLE  
Attorney Docket: MP0086

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Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, Virginia 22313-1450

**PRE-APPEAL BRIEF REQUEST FOR REVIEW AND PETITION FOR EXTENSION OF  
TIME**

Applicants request a Pre-Appeal Brief Conference and submit that Joergensen (U.S. Patent No. 6,529,957) fails to show, teach, or suggest one or more elements of the presently pending claims.

Applicant hereby petitions under the provisions of 37 C.F.R. § 1.136(a) for an extension of time in which to respond to the outstanding Office Action and includes a fee as set forth in 37 C.F.R. § 1.17(a) with this response for such extension of time.

07/28/2006 RMEBRAHT 00000055 09991043

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## **STATUS OF CLAIMS**

Claims 1-182 are rejected under 35 U.S.C. § 102(e) as being anticipated by Joergensen (U.S. Pat. No. 6,529,957).

## **SUMMARY OF CLAIMED SUBJECT MATTER**

Independent claim 1 recites a physical layer of a device connected to a cable of an Ethernet network. The physical layer includes a digital signal processor (DSP) and an autonegotiation controller that communicates with the DSP. The DSP is coupled to the cable, receives and decodes signals on the cable, and codes and transmits signals on the cable. The autonegotiation controller includes a cable detector. The cable detector determines a first number of pairs of twisted pair wires of the cable that are operable. Independent claims 25, 34, 58, 82, 107, 132, 156, 165, and 174 recite similar limitations.

Claim 3 depends from claim 1 and further recites that the autonegotiation controller includes a speed adjuster. The speed adjuster masks an advertised speed of the device when the cable detector determines that the first number is less than a number of twisted pair wires required to support a requested speed of the device. In other words, the speed adjuster operates based on the first number that the cable detector determines.

## **ARGUMENT**

Applicant respectfully submits that Joergensen does not show, teach, or suggest an autonegotiation controller that determines a first number of pairs of twisted pair wires of a cable that are operable. In contrast, Joergensen discloses determining an error rate of a link segment.

As described in FIG. 1 and 2 of the present invention, a number of pairs of twisted pair wires that are operable determines an operating speed (i.e. a mode) of a cable. For example, as shown in FIG. 1 and described in Paragraph [0003], pairs A and B are required (i.e. two pairs are required) to operate in 10BASE-T and 100BASE-TX modes. In contrast, pairs A and B and pairs C and D are required (i.e. four pairs are required) to operate in a 1000BASE-T mode.

As described in an exemplary embodiment of the present invention in FIGS. 3 and 4, a physical layer device 50 includes an autonegotiation controller 52. The autonegotiation controller 52 includes a cable detector 60 and a speed adjuster 64. The cable detector 60 “determines the number of operable pairs of twisted pair wires provided by the cable 20.” (Paragraph [0029]; Emphasis added). The speed adjuster 64 “operates after the cable detector 60 determines the number of operable pairs of twisted pair wires” and “alters the autonegotiation speed advertisement of the devices when an insufficient number of twisted pair wires are available.” (Paragraph [0029]; Emphasis added). Applicant notes that the cable detector 60 determines a number and the speed adjuster operates based on the number. In other words, claim 1 is not directed to determining an error rate of the twisted pair wires of the cable. Instead,

claim 1 is directed to determining a number of operable pairs of twisted pair wires of the cable.

As best understood by Applicant, Joergensen is absent of any teaching or suggestion of a cable detector that determines a number of pairs of twisted pair wires that are operable and is instead directed to evaluating an error rate on a link segment 10. (Column 2, Lines 49-51). For example, “[t]he error rate on link segment 10 may be due to a variety of causes, such as cable errors due to cable type, length, location and quality, electromagnetic interference noise, and physic interface problems.” (Column 2, Lines 63-67). The link is reconfigured to a lower speed when the error rate exceeds a threshold. For example, “[w]hen the error rate on the link segment 10 exceeds the threshold, according to the present invention the link is automatically reconfigured to a second, lower speed (data rate).” (Column 3, Lines 2-5).

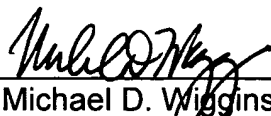
In other words, Joergensen discloses evaluating an error rate on a particular link segment and adjusting the speed of that link segment according to the error rate. The link segment remains at the lower speed conditionally. (Column 3, Lines 53-56). Such a structure is not analogous to a cable detector that determines a first number of pairs of twisted pair wires of the cable that are operable.” The Examiner notes that any Ethernet cable would have a “first number of pairs.” (see Page 3, Lines 1-2 of the Office Action dated March 31, 2006). Applicant respectfully submits that having a first number of pairs is not analogous to determining a first number of pairs that are operable. Joergensen always operates using two pairs. Therefore, there would be no reason to determine a number of operable pairs. As best understood by Applicant, Joergensen fails to show, teach, or suggest a cable detector that determines a first number of pairs

of twisted pair wires of a cable that are operable as claim 1 recites. Applicant respectfully submits that claim 1, as well as its dependent claims, should be allowable for at least the above reasons. The remaining independent claims, as well as their corresponding dependent claims, should be allowable for at least similar reasons.

With respect to claim 3, Joergensen discloses switching to a lower speed based on the error rate, such as switching from 100BASE-TX to 10BASE-T. Applicant respectfully notes that both 100BASE-TX and 10BASE-T operate using the same number of pairs of twisted pair wires and, as such, determining a number of operable pairs would be unnecessary. As such, Applicant respectfully submits that Joergensen fails to show, teach, or suggest a speed adjuster that masks an advertised speed of a device when the first number is less than a number of twisted pair wires required to support a requested speed as claim 3 recites. Applicant respectfully submits that claim 3, as well as its dependent claims, should be allowable for at least these reasons in addition to the reasons discussed with respect to claim 1.

Respectfully submitted,

Dated: 7/26/06

By:   
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